

Why Landscape-Scale Conservation is Important



Our approach to nature conservation is changing: moving away from simply trying to conserve what remains and instead restoring and creating habitats at a landscape scale to revive ecological networks and the natural processes that underpin them. Whilst we have a clear understanding of what needs to be done, we must also appreciate why this is so important.

There are fundamental reasons for restoring healthy, biodiverse ecosystems. Humanity is not separate from the natural world – we are part of it and depend upon it. We are coming to understand more fully that a healthy natural environment, the creatures it supports and the processes that underpin it, are crucial to our economies, our well-being, and ultimately our survival. We gain many free benefits from the natural world – increasingly referred to as ‘ecosystem services’ – and a biodiversity-rich environment underpins most, if not all, of them.

Life support

Fundamentally, ecosystem services make life possible. The oxygen we breathe is a by-product of the process of photosynthesis in green plants and algae, with trees and forests releasing huge quantities to the atmosphere every year. During this process plants also effectively remove pollutants, improving the quality of the air we breathe.

The next necessity for life is clean water. Wetlands in particular deliver two key functions: regulating flows, providing us with consistent supplies of water; and filtering and cleaning water, removing pollutants, excess nutrients and other contaminants, as it passes through a healthy wetland.

The final fundamental for life is food. The environment provides significant quantities of natural food; most notable in the UK are fish and other seafood, but we also consume game and other foraged foods. The vast majority of our food, however, comes from farming. But even agricultural systems, although heavily modified and simplified, are ecosystems reliant on ecological processes. Soil formation and nutrient cycling, adding fertility, provide the medium in which the majority of crops and animal food are grown. Three quarters of food crops rely on pollination by insects (notably bees) and other animals. The activities of predators and parasites have a significant role in controlling pests and diseases. Furthermore, retaining natural genetic diversity across landscapes is important in maintaining agricultural systems: it provides locally adapted varieties and a larger gene pool for the development of both existing and new food products.

Beyond agriculture, the natural environment provides much that underpins our economies, including fuels and the raw materials required for industrial processes and construction.



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Adapting to climate change

Increasing quantities of greenhouse gases in the atmosphere, particularly carbon dioxide, are acting to change our climate. However, many habitats store and sequester (lock up) this gas. The re-wetting of peat soils and the restoration and creation of habitats that can capture large quantities of carbon dioxide – notably woodland but also saltmarshes and bogs – can help to reduce the severity of climate change.

The natural environment can also help us adapt to the impacts of climate change. Already our weather is changing, with projections that we will see more extremes of temperature and rainfall in the future. But natural systems can prevent or reduce the consequences of these changes: greater tree cover provides shade and helps to reduce temperatures; natural vegetation cover stabilises soils, reducing erosion and landslide risk; wetlands and re-connected floodplains can reduce the impact of flooding; and healthy coastal habitats can provide enhanced protection against sea level rise and storm surges.



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Health and happiness

A functioning natural environment, and access to it, improve our quality of life. For a start, many of our medicines and pharmaceuticals are either directly derived from natural sources, or their chemical compounds replicate those found in nature. And more are being discovered all the time.

The connection between better human health and access to nature is now well established. There is a correlation between easy access to green space and levels of physical activity; and the evidence in relation to mental well-being is even more compelling, with reduced incidence of stress, depression and mental illness in those with access to nature, plus faster recovery times for those who do require treatment. Not only is this good for the welfare of the nation, but it also reduces pressure on stretched health services.

Less tangible but arguably equally valuable are the aesthetic, inspirational, spiritual and cultural values that we derive from the environment. It is these that underpin much of the tourism industry, a vital source of income for many.

ECOSYSTEM SERVICES		
PROVISIONING	Food	
	Raw materials	
	Medicinal resources	
	Fresh water	
REGULATION	Air quality regulation	
	Climate regulation	
	Water regulation	
	Erosion regulation	
	Water purification & waste treatment	
	Disease and pest regulation	
	Pollination	
	Moderations of extreme events	
SUPPORTING	Soil formation	
	Photosynthesis	
	Nutrient cycling	
CULTURAL	Spiritual and religious values	
	Aesthetic values	
	Recreation and eco tourism	
	Mental and physical health	



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The moral case

Delivering effective nature conservation is not just about what humans can gain from the natural world – it is important that we recognise the value of wildlife in its own right. Arguably, as just one of myriad species inhabiting this planet, humans should not prosper at the ultimate expense of other species. There is a case for managing the environment in ways that ensure the survival of all biodiversity, and an associated obligation to pass on a healthy natural environment to future generations of all species, including our own.



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Conclusion

It is clear that humans need to live in healthy, biodiverse environments. Yet over the last 70 years we have degraded ecosystems more rapidly and extensively than ever before, to such an extent that the Millennium Ecosystem Assessment (2005) (a major review of human impact on our environment) concluded that human actions are 'putting such strain on the environment that the ability of the planet's ecosystems to sustain future generations can no longer be taken for granted'. But it also concluded that it is not too late to reverse the degradation.

Some ecosystem services have defined market values (for example food or timber), but many are intangible and difficult – in some cases impossible – to value. Yet where it is possible, studies demonstrate that the benefits of environmentally-focussed land management can significantly exceed the costs. Natural processes offer cost-effective and sustainable solutions to many of the problems we face.

Hence the need to deliver nature conservation at a landscape-scale. As we look to respond to climate change, human population rise, drives for continued economic growth, and technological advancement, we must move to an era where nature plays a central role: a role reflected in policies, legislation, funding mechanisms and the way in which we live our lives. Delivering for nature at scale is the obvious response to the compelling case for the conservation of our natural heritage: what is good for wildlife is good for us.

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